



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/564,265	05/24/2006	Arto Koso	015258-066300US	8046
20350 7590 08/06/2008 TOWNSEND AND TOWNSEND AND CREW, LLP TWO EMBARCADERO CENTER EIGHTH FLOOR SAN FRANCISCO, CA 94111-3834			EXAMINER CALANDRA, ANTHONY J	
			ART UNIT 1791	PAPER NUMBER
			MAIL DATE 08/06/2008	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/564,265	Applicant(s) KOSO, ARTO	
	Examiner ANTHONY J. CALANDRA	Art Unit 1791	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 January 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 January 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>1/9/2006</u> . | 6) <input type="checkbox"/> Other: _____ |

Detailed Office Action

1. The communication dated has been entered 1/09/2006 and fully considered.
2. Claims 1-21 are currently pending.

Specification

3. The use of the trademark 'MC' has been noted in this application. It should be capitalized wherever it appears and be *accompanied by the generic terminology*.

Although the use of trademarks is permissible in patent applications, the proprietary nature of the marks should be respected and every effort made to prevent their use in any manner which might adversely affect their validity as trademarks.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claim 3, 6, 9, 11, 16, and 17 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
6. Claim 3 recites the limitation "consistency of the press" in line 2. There is insufficient antecedent basis for this limitation in the claim. Claim 1 does not mention the press.
7. Claims 6 and 11 recite the limitation "taking place in low consistency" in line 2. There is insufficient antecedent basis for this limitation in the claim. Claim 1 does not 'taking place at low consistency'. Claim 1 only mentions that the consistency is lowered by dilution. For purpose of examination the examiner has given claim 6 and 11 dependence upon claim 7 which has antecedent basis for low consistency.

Art Unit: 1791

8. In claim 9 and 16 applicant states the pump an MC pump, which is a trademarked term for a type of pump sold by Sulzer Inc. As the type of pump sold under the trademarked name may change the metes and bounds of the claim can also change, therefore the examiner cannot determine the patent protection desired by the applicant. Applicant should replace the trademarked name with generic terminology which defines the invention.

9. Regarding claim 17, the phrase "such as" renders the claim indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

Claim Rejections - 35 USC § 102

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

11. Claim 1, 5, 8, 12-16, 18 and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent #5,219,472 ELONEN et al., hereinafter ELONEN.

As for claim 1 and 5, ELONEN discloses a method wherein pulp from oxygen treatment is sent [column 1 lines 30-40 and figure 2 (2)] to a degassing medium consistency pulp by way of a degassing MC pump [column 1 lines 59-61] wherein the pulp is degassed wherein the pulp is diluted by water from pump (14) through line 16 [Figure 2] and then screened in screening apparatus (4) Since the pulp is diluted by water subsequent to the MC degassing pump, it has a lower consistency [column 4 lines 50 and 51].

Art Unit: 1791

As for claims 8 and 9, ELONEN discloses that the degassing pump is an MC pump [column 1 lines 59-61]. An MC pump has a fluidizing impeller.

As for claim 12, 13, 14, and 18, ELONEN discloses an apparatus wherein pulp from oxygen treatment is sent [column 1 lines 30-40 and figure 2 (2)] to a degassing medium consistency pulp by way of a degassing MC pump [column 1 lines 59-61] wherein the pulp is degassed and pulp is diluted by water from pump (14) through line 16 [Figure 2] and then screened in screening apparatus (4). Since the pulp is diluted by water subsequent to the MC degassing pump, it has a lower consistency [column 4 lines 50 and 51].

As for claim 15 and 16 ELONEN discloses that the pump is an MC pump [column 1 lines 59-61]. An MC pump has a fluidizing impeller which is found within the dropleg.

As for claim 20, ELONEN discloses that a centrifugal pump (14) is used for dilution of the pulp [Figure 2 and column 4 lines 55-60].

12. Claims 1, 2, 4, 8, 10, 12-17 and 19 rejected under 35 U.S.C. 102(b) as being anticipated by Chemical Pulping by GULLICHSEN.

As for claim 1, 5, 9, 12, 13, 14, 16, 17, GULLICHSEN discloses a tower discharge system for MC pulp [pg. A622], wherein the discharged pulp is falls into a drop-leg and pumped from an MC pump which has degassing [pg. A623 Figure 16], through a chemical mixer [pg. A622 Figure 13], to a bleaching stage. The addition of chemicals to the bleaching stage lowers the consistency of the pulp.

As for claim 2 and 10, GULLICHSEN discloses a discharge scrapper with dilution [pg. A623 Figure 16] and that the pulp can be diluted from 20-25% to MC range [pg. A622].

As for claim 4 and 17, GULLICHSEN discloses that the MC pump system can be used on a washer [pg. A621 figure 12].

As for claim 8 and 15, an MC pump has a fluidizing impeller which is a turbulence forming impeller.

As for claim 19, GULLICHSEN discloses that the dilution of MC pulp can take place with a chemical mixer [pg. A627].

13. Claims 1, 2, 4-21 are rejected under 35 U.S.C. 102(b) based upon a public use or sale of the invention. The 2/17/2005 TAPPI presentation based on the Bowater Catawba, hereinafter BOWATER, mill shows that the invention, as claimed, was in use by September 2003 and sold on November of 2000, which is over 1 year prior to the date of the application and as evidenced by Handbook for Pulp and Paper Technologists by SMOOK, hereinafter SMOOK. The sale is further evidenced by the publication *Medium Consistency technology from Sulzer Pumps*, hereinafter SULZER, dated April 2003 which disclosed that Sulzer MC pump systems were sold to Bowater Catawba mill and said MC pump have degassing [pg. 23].

As for claim 1, BOWATER discloses a system in which medium consistency pulp is transferred from a tower with a bottom scraper (1) to a chute and through a Medium consistency pump to an oxygen treatment tower (3) which treats the pulp at a lower said second consistency than that of the pulp in the tower with bottom scraper (1) [see e.g. BOWATER pg. 8]. The pulp flows through Medium Consistency pump (2), the medium consistency pump includes a degassing operation [see e.g. SULZER pg. 2 bottom Figure (4)]. The pulp is pumped to oxygen treatment tower (4). Prior to entering the treatment tower the pulp is diluted by chemicals in

Art Unit: 1791

chemical mixer 3 [see e.g. BOWATER pg. 8 and pg. 20 chemical addition totaling 2.1 NaOH on pulp]. Therefore the pulp is diluted to a lower consistency.

Alternatively, BOWATER also discloses a medium consistency DD washer (9) which drops pulp into a dropleg, said pulp is pumped by a series of MC pumps to an HD Storage Tank and then to a paper machine [see e.g. BOWATER pg. 8 and pg. 32]. MC pumps have degassing as disclosed above. A paper machine has a machine chest wherein pulp is usually diluted to consistencies of 2.8 to 3.2% [SMOOK pg. 207].

As for claim 2, the MC pump which degasses the pulp includes an upper and lower dilution valve on the pump feed dropleg which dilute the pulp from a first consistency but higher than said second consistency which adds additional dilution via the upper and lower dilution valves. Further, seal water leakage from the pump into the pulp will also dilute the pulp consistency.

As for claim 4, MC DD washer (9) discharges pulp into the dropleg of MC pump (10) at a first consistency [see e.g. BOWATER pg. 8].

As for claim 5, the pulp from a medium consistency DD washer (9) is medium consistency [see e.g. BOWATER pg. 8 and pg. 32].

As for claim 6, BOWATER discloses a screening treatment (7) which takes place after degassing in medium consistency pump (2) and/or (5).

As for claim 7, BOWATER discloses both low consistency screening (7) and discloses a paper machine after MC pumps (10). As evidenced by SMOOK a paper machine typically has a blend chest which has consistencies of 2.8 to 3.2% which overlaps with sufficient specificity

Art Unit: 1791

with the instant claimed range [see e.g. SMOOK pg. 207]. SMOOK further discloses that paper machines have headboxes wherein the consistency is about 1% [see e.g. SMOOK pg. 208].

As for claim 8, the MC pump of BOWATER has a fluidizing impeller as disclosed by SULZER [see e.g. SULZER pg. 2. bottom Figure (2)].

As for claim 9, BOWATER uses MC pumps as further evidenced by SULZER [see e.g. SULZER MC Pump deliveries table].

As for claim 10, BOWATER discloses a tower (1) which also is shown to have a bottom scraper [see e.g. BOWATER pg. 8].

As for claim 11, BOWATER discloses screening (7) which is a filtering type operation, and the LC DD washer (8), which is a low consistency washer (8) [see e.g. BOWATER pg. 8]

As for claim 12, BOWATER discloses an apparatus comprising an MC pump (2) fed from a tower (1), wherein the also degasses the pulp prior to being sent to the lower dilution treatment apparatus (4), the pulp is diluted by way of chemical mixer (3).

As for claim 13, discloses a MC pump (2) which is located between the higher consistency storage tank (1) and the lower consistency oxygen delignification process (3)

As for claim 14, the MC pump is a gas separating pump [see e.g. SULZER pg. 2. Bottom figure degassing system (4)].

As for claim 15 and 16, the MC pump (2) of BOWATER is a gas separating pump and has a fluidizing impeller arranged within the dropleg [see e.g. SULZER pg. 2. bottom Figure fluidizing impeller (2) degassing system (4)].

As for 17, BOWATER discloses a pulp treatment apparatus of a pressurized drum washer (DD washer) (9) [see e.g. BOWATER pg. 8].

Art Unit: 1791

As for claim 18, BOWATER discloses pulp screening (7) [BOWATER pg. 8].

As for claim 19, BOWATER discloses a chemical mixer (4) which is a rotary mixer [BOWATER pg. 8].

As for claim 20, BOWATER shows centrifugal dilution pumps [pg. 8].

As for claim 21, BOWATER discloses a pressurized drum washer (8) operating at low-consistency after MC degassing pump [BOWATER pg. 8].

Claim Rejections - 35 USC § 103

14. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

15. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

16. Claim 3, 6, 7, 11, 18, 20, and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chemical Pulping by GULLICHSEN.

As for claim 3, GULLICHSEN discloses washers are used with MC pulp pumping systems but does not explicitly disclose a wash press being used with said system.

GULLICHSEN discloses that press can be used to wash pulp and has a high consistency [pg.

Art Unit: 1791

A592]. At the time of the invention it would have been obvious to substitute the press of GULLICHSEN for the DD washer of GULLICSEHN. It is *prima facie* obvious to substitute one known element for another known element. A person of ordinary skill in the art would expect the press washer to work in a substituted position of the DD washer as evidenced by GULLICHSEN who states multiple places where a press washer can be used [pg. A592].

As for claims 6, 7, 11, 18, and 21, GULLICHSEN discloses a MC pump used for degassing and then a chemical mixer [pg. A622 Figure 13]. However, the treatments after the chemical mixer while lower consistency are not “low consistency”. At the time of the invention it would have been obvious to a person of ordinary skill in the art to use the MC pump of GULLICHSEN to degas medium consistency pulp and then use the chemical mixer to dilute the pulp to low consistency and treat said pulp in a low consistency apparatus such a screening apparatus. At the time of the invention a person of ordinary skill in the art would have expected the chemical mixer of GULLICHSEN to allow dilution down to low consistency as disclosed by GULLICHSEN who states that the chemical mixer can work from consistencies of 3 to 20% [pg. A627]. Further a person would be motivated to. GULLICHSEN discloses low consistencies treatments such as screening [pg. A128] and press washers [pg. A114].

As for claim 20, GULLICHSEN does not disclose how the dilution liquids are pumped into the pulp slurry. However, the use of a centrifugal pump to pump fluid is well-known and common in the art and would have been obvious at the time of the invention.

17. Claims 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent #5,219,472 ELONEN et al., hereinafter ELONEN, in view of Chemical Pulping by GULLICHSEN.

As for claim 6 and 7, ELONEN discloses that pulp is pumped to screening and diluted [Figure 2 and column 4 lines 50-60]. ELONEN does not disclose the consistency of the pulp in the screening apparatus. GULLICHSEN discloses that a typical screen room is fed at 2% consistency [pg. A128]. At the time of the invention it would have been *prima facie* obvious to run the screen room of ELONEN at the consistency taught by GULLICHSEN. A person of ordinary skill in the art would be motivated to run a well known process such as screening at a typical well known consistency for screening devices

18. Claim 11 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent #5,219,472 ELONEN et al., hereinafter ELONEN.

As for claim 11 and 21, ELONEN explicitly discloses screening after the degassing pump. ELONEN also discloses that without exception certain treatments such as pressing, washing and thickening are affected by air in the pulp. At the time of the invention it would have been obvious to a person of ordinary skill in the art to use the degassing pump of ELONEN prior to a press or washing stage. A person of ordinary skill in the art would be motivated to do so to remove as much air as possible in order to increase the efficiency of each stage.

19. Claim 5 rejected under 35 U.S.C. 103(a) as being unpatentable over *TAPPI presentation based on the Bowater Catawba*, hereinafter BOWATER and publication *Medium Consistency technology from Sulzer Pumps*, hereinafter SULZER, in view of Chemical Pulping by GULLICHSEN.

As for claim 3, BOWATER discloses pulp being fed to a MC degassing pump (10) from a DD washer. BOWATER does not disclose the use of a press. GULLICHSEN discloses that press can be used to wash pulp and has a high consistency [pg. A592]. At the time of the

Art Unit: 1791

invention it would have been obvious to substitute the press of GULLICHSEN for the DD washer of BOWATER. It is *prima facie* obvious to substitute one known element for another known element. A person of ordinary skill in the art would expect the press washer to work in a substituted position of the DD washer as evidenced by GULLICHSEN who states multiple places where a press washer can be used [pg. A592].

Conclusion

20. Any inquiry concerning this communication or earlier communications from the examiner should be directed to ANTHONY J. CALANDRA whose telephone number is (571) 270-5124. The examiner can normally be reached on Monday through Thursday, 7:30 AM-5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Griffin can be reached on (571) 272-1189. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Steven P. Griffin/

Application/Control Number: 10/564,265
Art Unit: 1791

Page 12

Supervisory Patent Examiner, Art Unit
1791

AJC